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ABSTRACT

The South Carolina Trade Examinations for Trade and Industrial Education teachers are administered semi-annually by the South Carolina State Department of Education, Office of Vocational Education, Vocational Teacher Education Programs Unit. This handbook is designed to provide prospective trade and industrial education teachers, vocational administrators, state department personnel, and other interested parties information specific to the trade examinations. Procedures for testee and tester are discussed. Information sheets presenting practical and theory trade examination data, sample questions, and answer sheets are included for the following fields: (1) agricultural mechanics, (2) air conditioning and refrigeration, (3) appliance repair, (4) auto body and fender, (5) auto mechanics, (6) brick masonry, (7) building construction (carpentry), (8) business machine repair, (9) cabinet making, (10) commercial art, (11) commercial cooking, (12) diesel engine, (13) drafting, (14) electricity, (15) electronics, (16) graphic communications, (17) heavy equipment mechanic, (18) industrial sewing, (19) machine shop, (20) painting and decorating, (21) plumbing, (22) radio and TV repair, (23) shoe repair, (24) small engine repair, (25) tailoring, (26) textiles: weaving and designing (Dobby/x-2 or x-3 loom), (27) textiles: weaving and designing (draper shuttleless), (28) textiles: yarn manufacturing, and (29) welding. (PN)

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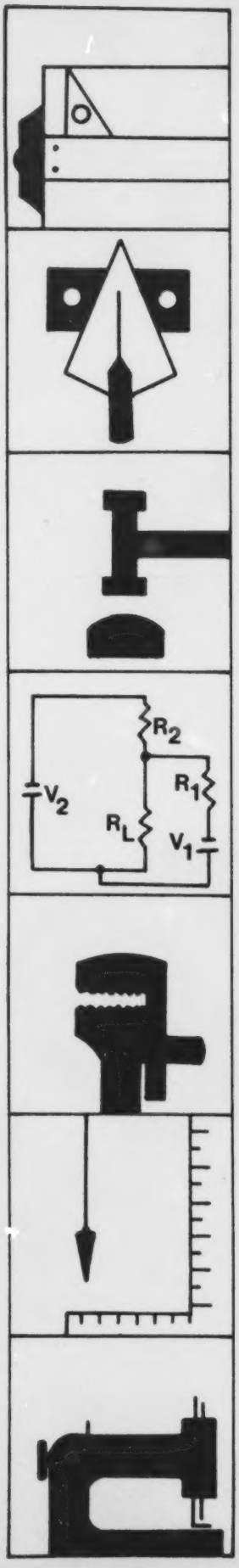


# SOUTH CAROLINA TRADE EXAMINATIONS HANDBOOK

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OFFICE OF VOCATIONAL EDUCATION
SC DEPARTMENT OF EDUCATION

# SOUTH CAROLINA
# TRADE EXAMINATIONS HANDBOOK

Prepared by
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Columbia, South Carolina

July, 1983

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## INTRODUCTION

The South Carolina Trade Examinations for Trade and Industrial Education teachers are administered semi-annually by the South Carolina State Department of Education, Office of Vocational Education, Vocational Teacher Education Programs Unit. This handbook is designed to provide prospective trade and industrial education teachers, vocational administrators, state department personnel and other interested parties information specific to the trade examinations.

Should there be questions related to any information in this handbook they should be addressed to Teacher Education Consultant, Room 912-E, Rutledge Building, Columbia, South Carolina 29201, telephone: 758-3156.

The South Carolina Department of Education does not discriminate on the basis of race, creed, national origin, sex, or handicap.

## SOUTH CAROLINA
## TRADE AND INDUSTRIAL EDUCATION TRADE EXAMINATION AREAS AND CODES FOR TRADES AND INDUSTRIES CERTIFICATION

Listed below are the twenty-eight trade examination areas currently being offered for certification. Also listed are the codes used for identification on records and teaching certificates. Codes have not been assigned for Diesel Engine and Heavy Equipment Mechanic.

| | |
|---|---|
| **AA** | Agricultural Mechanics |
| **AG** | Air Conditioning and Refrigeration |
| **AH** | Appliance Repair |
| **AJ** | Auto Body and Fender |
| **AK** | Auto Mechanics |
| **AL** | Brick Masonry |
| **AM** | Building Construction (Carpentry) |
| **AN** | Business Machine Repair |
| **AP** | Cabinet Making |
| **BN** | Commercial Art |
| **AQ** | Commercial Cooking |
| | Diesel Engine |
| **AU** | Drafting |
| **AV** | Electricity |
| **AW** | Electronics |
| **AX** | Graphic Communications |
| | Heavy Equipment Mechanic |
| **AY** | Industrial Sewing |
| **BA** | Machine Shop |
| **BB** | Painting and Decorating |
| **BC** | Plumbing |
| **BD** | Radio and TV Repair |
| **BE** | Sheet Metal |
| **BQ** | Shoe Repair |
| **BF** | Small Engine Repair |
| **BG** | Tailoring |
| **BH** | Textiles* |
| **BK** | Welding |

Certification in cosmetology, health occupations and barbering requires submission of official verification that the applicant has passed an appropriate South Carolina or Federal licensing examination in the area for which certification is requested.

*Certification in the textile area may be obtained through an examination in either yarn manufacturing or weaving. In each of these areas the examinee will be tested on appropriate textile equipment for the specific area selected.

## PURPOSE OF TRADE EXAMINATIONS

The Trade and Industrial Education Examinations have been developed specifically for the state of South Carolina. They are designed to test the technical knowledge and skills of persons seeking certification as a Trade and Industrial Education teacher. All applicants for a trade certificate must pass the trade teacher's examination in the field in which certification is requested.

## ELIGIBILITY FOR TAKING THE TRADE EXAMINATION

Any citizen of the United States is eligible to take the trade examination. Non-citizens may establish eligibility by presenting a Declaration of Intention issued by a federal court.

## EXAMINATION FEES

The fee for the trade examination is twenty-five dollars ($25.00). All newly employed teachers who are under contract with a school district to teach are eligible to take the examination one time at no cost. To be eligible to take the examination without cost your school administrator must sign a form verifying your employment. All applicants wishing to retake the examination, take the examination in another area or do not have a teaching position will be responsible for the $25.00 fee.

## APPLICATION FOR TRADE EXAMINATIONS

To apply for the trade competency examination, you must complete an application form. A sample application form is shown on page 6 for your information. Your completed application must be received by the Office of Vocational Education by the first Friday in January or August in order for you to be eligible for the examination given in each of these months. Upon receipt of the application the applicant will be sent information that will assist in preparation for the exam. The exact locations for the administration of the examinations will be determined upon receipt of all applications. Each applicant will be notified at least 7 days prior to the examination of the time and place of the examination.

## TRADE EXAMINATION DATES

Trade examinations are scheduled on the last Saturday of January and August of each year. Both the **theory** and **practical** portions of the exams are to be administered on these dates. All examinees are required to take both parts on the date selected. Each applicant must present a valid South Carolina driver's license (or other picture identification) and a letter of admissions from the Office of Vocational Education in order to be admitted for the examination. The letter of admission will specify the subject area examination to be taken.

## ANNOUNCEMENT OF THE TRADE EXAMINATIONS

Announcement letters concerning the exact dates and other relevant information on the trade examinations are mailed twice a year. These letters are sent to all

vocational directors/principals, persons who are in the process of being certified under trades and industries certification, and all individuals who have written the State Department of Education requesting information on the trade examination. A typical schedule for the announcement information is as follows:

1. Mail out trade examination announcement letter which includes an application form at least 8 weeks prior to the examination date.

2. Completed trade examination applications are due in to the Office of Vocational Education no later than 4 weeks prior to the examination date.

3. Mail out trade examination information sheets to applicants as applications are received.

4. Mail out trade examination information concerning the locations of the examinations, admission letter, etc. to all applicants at least one week prior to the examination.

## PROCEDURES FOR ADMINISTERING THE TRADE EXAMINATIONS

Each test administration official will observe the following regulations:

1. All examinees must be signed in by the designated starting time of the examination.

2. Test administration officials may refuse admission to any examinee who fails to present prescribed identification credentials (picture ID and admission letter).

3. Examinees must provide their own materials for use during the examinations as designated on the trade examination information sheet. No other materials will be allowed in the examination area except those provided by the official. Test administrators will check to verify that only designated materials are brought into the examination area.

4. No test materials, documents, or notes of any kind may be removed from the examination room.

5. Anyone observed giving or receiving assistance of any kind during the examination will be dismissed from the examination room and their test results will be declared null and void. Also, a report will be sent to the examinee's potential teaching assignment school and to the Department of Education.

6. Examinees will be assigned seats and/or work stations during the examination and may relocate examinees to different locations if, in the opinion of the administrator, such procedures are necessary to maintain appropriate testing conditions.

7. Test administration officials will orient the examinees as a group prior to the examination. Each examinee will be required to designate the actual starting and completion time of the theory and practical

examinations in the appropriate space provided. Under no circumstances will an examinee be allowed to use more than the three hours allotted for each of the two portions of the trade examination.

8. At the designated time the examinee will turn in the completed examination or portion thereof to be graded as specified by the State Department of Education.

## GRADING OF TRADE EXAMINATION

Grading of the trade examination will be done by State Department of Education officials and selected test administration officials. The theory portion will be scored by State Department of Education officials and the practical portion will be scored by the officiating test administrators. A composite score of 650 from the theory and the practical portions of the examination is required for passing the trade examination.

## NOTIFICATION OF TRADE EXAMINATION GRADES

Examinees will be notified in writing no later than six weeks from the date of the examination the score they achieved on the examination.

## RETAKING THE TRADE EXAMINATION

To register for retaking the trade examination, you must follow the standard procedures of submitting a new application. A sample application form is depicted on page 6 of this book. Examinees requesting to retake the examination will be charged a $25.00 examination fee.

STATE DEPARTMENT OF EDUCATION
OFFICE OF VOCATIONAL EDUCATION
COLUMBIA, SOUTH CAROLINA 29201

# APPLICATION
# SOUTH CAROLINA TRADE TEACHERS EXAMINATION

## EXAM DATE

January/August

Print all information except where signature is requested.

NAME_____
(Last) (First) (Middle)

PERMANENT
ADDRESS_____
(R.F.D. or No. and St.) (City or Post Office) (County) (Zip Code)

Check the exam you wish to take (check only one).

- ☐ Agricultural Mechanics
- ☐ Air Conditioning and Refrigeration
- ☐ Appliance Repair
- ☐ Auto Body and Fender Repair
- ☐ Automotive Mechanics
- ☐ Brick Masonry
- ☐ Building Construction (Carpentry)
- ☐ Business Machine Repair
- ☐ Cabinet Making
- ☐ Commercial Art
- ☐ Commercial Cooking
- ☐ Diesel Engine
- ☐ Drafting
- ☐ Electricity
- ☐ Electronics
- ☐ Graphic Communications
- ☐ Heavy Equipment Mechanic
- ☐ Industrial Sewing
- ☐ Machine Shop
- ☐ Painting and Decorating
- ☐ Plumbing
- ☐ Radio & TV Repair
- ☐ Sheet Metal
- ☐ Shoe Repair
- ☐ Small Engine Repair
- ☐ Tailoring
- ☐ Textiles -
  - ☐ Weaving (Dobby/X-2 or X-3 Loom)
  - ☐ Weaving (Draper Shuttleless)
  - ☐ Yarn Manufacturing
- ☐ Welding

## EXAMINATION FEES

The fee for the trade exam is twenty-five dollars ($25.00). All newly employed teachers who are under contract with a school district to teach are eligible to take the exam one time at no cost. To be eligible to take the exam without cost your school administrator must sign below verifying your employment. All applicants wishing to retake the exam, take the exam in another area or do not have a teaching position must attach the $25.00 fee to the application. Checks are to be made payable to the South Carolina Department of Education.

I hereby make application for the South Carolina Trade Teachers Examination which I have checked above.

_____
DATE

_____
SIGNATURE

I certify that the above named teacher is under contract to teach in this school district as a first year teacher and therefore eligible to take the exam without charge.

_____
SCHOOL NAME

_____
ADMINISTRATOR'S NAME

_____
ADMINISTRATOR'S SIGNATURE

**NOTE:** Completed trade examination applications, fees, or questions regarding the trade examination should be directed to Shirley Crook, Teacher Education Consultant, 912-E Rutledge Building, 1429 Senate Street, Columbia, South Carolina 29201.

SDE 26-226-00 (This form becomes obsolete 6/30/87.) 6

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

AGRICULTURAL MECHANICS

The trade examination in agricultural mechanics consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of agricultural mechanics through the application of a performance test on one or more of the following: gasoline engine, diesel engine, small engine, hydraulic system or arc welding and cutting. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- Pliers
- Channel lock pliers
- Needle nose pliers
- Standard screwdriver
- Phillips screwdriver
- 1/2" & 3/8" Drive ratchet w/extension
- Feeler gauge
- Universal adapter
- Combination wrenches - 5/8", 7/16", 9/16", 3/4", 13/16", 7/8", 15/16", & 1"
- 11/16" & 5/8" Box end wrench
- 9/16" & 1/2" Open end wrench
- Hammer (ball team)
- Punch
- Chisel
- 3/8" & 1/2" Drive pull handle
- 1/2" Drive speeder
- Sockets - 1/2", 7/16", 9/16", 5/8", 11/16", 13/16", 7/8", 15/16",1", 1 1/16", & 1 1/8"
- 3/4" Deep well socket

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes and shoes as required for work in agricultural mechanics.

## THEORY TRADE EXAMINATION

The agricultural mechanics theory examination will consist of 97 multiple choice questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to agricultural mechanics:

- Trade terms
- Engine
- Tool/Equipment identification
- Fuels
- Trade techniques
- Small engine
- Steering system
- Cooling system

Carburetor
Welding
Tires
Trouble shooting
Tractor maintenance
Safety

Ignition system
Brake system
Transmission system
Hydraulic system
Electrical system

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the agricultural mechanics theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. Viscosity of oil is

   a. the color of the oil.
   b. the ability of the oil to thicken.
   c. the thickness of the oil.
   d. the ability of the oil to flow.

2. One tool that is used in arc welding is

   a. a pair of pliers.
   b. a pair of scissors.
   c. a pick hammer.
   d. a claw hammer.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 0 ● | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 ● 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |

The actual answer sheet will provide for 97 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

AIR CONDITIONING AND REFRIGERATION

The trade examination in air conditioning and refrigeration consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of air conditioning and refrigeration through the installation, adjustments and diagnoses of problems in a warm air heating system and an air conditioning unit. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

Set of refrigeration flare nut wrenches
Set of refrigeration gauges/screw drivers
12 inch Adjustable wrench
1 Pair 10 inch channel lock pliers
1 Refrigeration wrench
Volt ohmmeter

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes as required for work in air conditioning and refrigeration.

## THEORY TRADE EXAMINATION

The air conditioning and refrigeration theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to air conditioning and refrigeration:

Trade terms
Refrigeration systems/service
Refrigeration/Heating electricity
Compressors
Fans
Pumps
Piping
Electric calculation/components
Chemical formulas
Material/Parts identification
Temperature
Safety
Trade techniques
Heating systems
Science of air conditioning
Ventilation
Fluid flow
Ducts
Instrument operation
Control devices/operation
Biology
Air circulation
Insulation

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the air conditioning and refrigeration theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. The metering device on a freon 22 refrigeration system is located

   a. in the condenser.
   b. in the compressor.
   c. between the evaporator and condenser.
   d. between the condenser and compressor.

2. Heat is removed from the refrigerant in a freon 22 air conditioner by the

   a. condenser.
   b. compressor.
   c. expansion valve.
   d. evaporator.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 ● 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | ● 0 0 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 32. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

APPLIANCE REPAIR

The trade examination in appliance repair consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of appliance repair through the application of a performance test consisting of repair jobs on major appliances. A maximum of three hours will be allowed for this portion of the trade examination.

All equipment, materials and/or supplies will be supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the appliance repair industry.

## THEORY TRADE EXAMINATION

The appliance repair theory examination will consist of 210 multiple choice questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to appliance repair:

- Trade terms
- Tool identification/selection
- Equipment identification/selection/ operations
- Material/Appliance identification
- Small appliances
- Major appliances (repair, use, installation)
- History
- Trade techniques
- Testing techniques
- Circuits
- Electricity
- Trouble shooting
- Consumer knowledge of appliances
- Safety
- Science of heating/cooling

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the appliance repair theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown on the following page. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. Two major external factors that may cause machine failure are

   a. climate and age.
   b. operator and installation.
   c. operator and environment.
   d. product failure and environment.

2. The basic law governing the flow of electricity is called

   a. static law.
   b. Watt's law.
   c. Franklin's law.
   d. Ohm's law.

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 ● 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 0 ● | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 32. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |
| 8. | 0 0 0 0 | 34. | 0 0 0 0 | 58. | 0 0 0 0 | 83. | 0 0 0 0 |
| 9. | 0 0 0 0 | 35. | 0 0 0 0 | 59. | 0 0 0 0 | 84. | 0 0 0 0 |

The actual answer sheet will provide for 210 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

# AUTO BODY AND FENDER REPAIR

The trade examination in auto body and fender repair consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of auto body and fender repair through the application of auto body repair and refinish work including estimating. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- Disc sander
- G.M. 1971 or later model door with door guard rail (without glass)
- Steel brush
- 2 "C" clamps
- Body bumping hammer
- Suction cup puller
- Sanding block
- Electric or air disc grinder
- Air hose and connectors
- Pick hammer
- Safety glasses
- Spray gun with attachments
- 1/4 inch Electric drill
- 24 Grit 7 inch sanding disc
- 4 pieces 80 Grit 3 1/2" by 17" bondo paper
- 2 sheets 400 Grit sandpaper
- Clipboard
- Number 2 pencil
- Hand tools
- Tool box
- 18 inch Pry bar
- Set of chisels
- 11 ounce Plastic tip hammer
- Slide dent puller
- Set of punches
- Bondo spreaders
- Extension cord
- Suform tools
- Combination dolly
- Shields
- 1/8 inch Drill bit
- D.A. Sander and straight line air file
- 6 pieces 36 Grit 3 1/2" X 7" bondo paper
- Quart of body filler (bondo and hardner)
- 5 sheets 360 Grit sandpaper
- Quart of primer and thinner ready mixed

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the auto body industry.

## THEORY TRADE EXAMINATION

The auto body and fender repair theory examination will consist of 144 multiple choice questions. The questions will test the examinee's knowledge on the following industry concepts and operations as applied to auto body and fender repair:

- Trade terms
- Painting and refinishing
- Frame repair
- Sheet metal repair
- Fiberglass repair
- Vinyl roof repair/service
- Refinishing repair
- Glass service
- Shrinking metal
- Trouble shooting
- Auto electrical repair
- Electric/Oxyacetylene welding
- Door service
- Trade techniques
- Body repair
- Front-end repair
- Plastic body filler repair
- Rust repair
- Exterior trim repair
- Body insulation
- Surface preparation
- Underbody alignment
- Auto mechanical repair
- Auto air conditioning repair
- Shop management
- Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the auto body and fender repair theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. Indirect body damage is usually characterized by

   a. damage to the paint finish.
   b. damage at the point of impact.
   c. distortion of bumpers.
   d. buckles and ridges appearing some distance from the point of impact.

2. Paint wrinkling in auto body work is usually not caused by

   a. moisture in the top coat material.
   b. incorrect reduction.
   c. overly heavy application.
   d. an attempt to force dry the material too rapidiy.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| a b c d | | a b c d | | a b c d | | a b c d | |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 0 ● | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | ● 0 0 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |

The actual answer sheet will provide for 144 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

AUTOMOTIVE MECHANICS

The trade examination in automotive mechanics consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of automotive mechanics through the application of a performance test on an automobile. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- American-made car/car manual
- Two fender covers
- Hydrometer
- Compression gauge
- Dwell meter
- Fuel pump tester
- Timing light
- Wiping rags
- Mechanics hand tools
- Fire extinguisher ($CO^2$ dry chemical)
- Voltmeter
- Ohm meter
- Vacuum gauge
- Tachometer
- Torque wrench

Examinee may bring the following:

- Spark plugs
- Distributor cap
- Air filter
- Points and Condenser
- Spark plug wires
- PCV valve

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the automotive mechanics industry.

## THEORY TRADE EXAMINATION

The automotive mechanics theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to automotive mechanics:

- Trade terms
- Engine
- Ignition system
- Cooling system
- Electrical system
- Steering system
- Automotive electricity
- Clutch
- Trade techniques
- Exhaust system
- Fuel system
- Lubrication system
- Suspension system
- Brake system
- Carburetor
- Manual and automatic transmission

Drive train
Tool identification
Trouble shooting
Safety

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the automotive mechanics theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. Oil holes drilled in the crankshaft feed oil to the

   a. connecting rod journals.
   b. cylinder walls.
   c. camshaft bearings.
   d. piston pins.

2. The flywheel

   a. prevents excessive forward motion of the crankshaft.
   b. carries the engine timing marks.
   c. smooths out the power impulses from the engine.
   d. turns the motor controls.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | ● 0 0 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 ● 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

BRICK MASONRY

The trade examination in brick masonry consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of brick masonry through the construction of a masonry project using masonry techniques, tools and equipment. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following :

- Trowel
- Brick set
- Rule
- Mason's line
- Brush (mason's)
- Brick hammer
- Plumb rule (level)
- Striking tool (jointers)
- Square

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes and shoes as required for work in the brick masonry industry.

## THEORY TRADE EXAMINATION

The brick masonry theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to brick masonry:

- Trade terms
- Brick manufacturing
- Foundation construction
- Reinforced wall construction
- Fireplace construction
- Arch construction
- Column construction
- Ornamental construction
- Mortar mixing
- Tool identification/operations
- Masonry specifications/estimations
- Safety
- Trade techniques
- Footing construction
- Wall construction
- Outside corner construction
- Chimney construction
- Step construction
- Plaster construction
- Block construction
- Cleaning processes
- Material identification/composition
- Blueprint reading

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the brick masonry theory examination. Each question is followed by four choices for an answer, only one of which is correct.

Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. The corners of the foundation wall that are built on the footings are determined from the batter boards by using a

   a. plumb bob.
   b. straightedge.
   c. transit level.
   d. chalk line.

2. When laying out the corner of the foundation on the footing with a transit level, the transit level is swung

   a. 45 degrees.
   b. 60 degrees.
   c. 90 degrees.
   d. 360 degrees.

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | ● 0 0 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 ● 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 33. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |
| 8. | 0 0 0 0 | 34. | 0 0 0 0 | 58. | 0 0 0 0 | 83. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

BUILDING CONSTRUCTION
(CARPENTRY)

The trade examination in building construction (carpentry) consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of the building construction (carpentry) trade through the construction of a wood project using carpentry techniques, tools and equipment. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following :

- Marking pencil
- 6 foot Ruler
- 10 foot Tape measure
- Framing square
- Combination square
- 1 Finishing saw
- 1 Crosscut saw
- Set of wood chisels
- Wood mallet
- Small wood miter box
- Curve claw hammer

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes and shoes as required for work in the building construction (carpentry) industry.

## THEORY TRADE EXAMINATION

The carpentry theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to building construction (carpentry):

- Trade terms
- Tool identification/operations/ maintenance
- Material identification/selection
- Layout/Footing/Foundation
- Framing
- Flooring
- Interior/Exterior finishing
- Roofing
- Step construction
- Building practices
- Insulating and heating
- Fire and rodent protection
- Estimating building cost/quantities
- Carpenter qualifications
- Mathematics
- Blueprint reading
- Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the building construction (carpentry) theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. A joist that extends inward a distance equal to at least twice the overhang is a

   a. counterfold joist.
   b. heading joist.
   c. cantilever joist.
   d. broken line joist.

2. The type of framing used in most modern residential construction is a

   a. balloon type framing.
   b. platform type framing.
   c. modern brace type framing.
   d. prefabrication framing.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 ● 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 ● 0 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATIN PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

BUSINESS MACHINE REPAIR

The trade examination in business machine repair consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of business machine repair through the application of a performance test consisting of repair jobs on business and office machines. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- 8" Standard screwdriver
- Duckbill pliers
- Escapement trip wrench
- Basic IBM tool kit
- Feeler gauge

The examinee will be allowed to bring and use their own personal hand tools. No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes as required for work in business machine repair.

## THEORY TRADE EXAMINATION

The business machine repair theory examination will consist of 43 multiple choice questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to business machine repair:

- Trade terms
- Manual typewriters
- Electric typewriters
- Element typewriters
- Calculators
- Photo-copiers
- Duplicators
- Trade techniques
- Circuits
- Testing techniques
- Electricity
- Trouble shooting
- Business machine supplies
- Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the business machine repair theory examination. Each question is followed by three choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. The proper paper feed for typewriters depend almost entirely upon

   a. proper feed roller tension.
   b. the condition of the platen and feed rollers.
   c. proper adjustment of shift.

2. When measuring DC voltage on an electronic desk calculator,

   a. the meter must first be calibrated to a zero reading.
   b. never set the meter selector switch to a range higher than the voltage anticipated.
   c. it is wise to make the first reading with the meter set on 300 voltage DC.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c | | a b c | | a b c | | a b c |
|---|---|---|---|---|---|---|---|
| 1. | 0 ● 0 | 26. | 0 0 0 | 51. | 0 0 0 | 76. | 0 0 0 |
| 2. | 0 0 ● | 27. | 0 0 0 | 52. | 0 0 0 | 77. | 0 0 0 |
| 3. | 0 0 0 | 28. | 0 0 0 | 53. | 0 0 0 | 78. | 0 0 0 |
| 4. | 0 0 0 | 29. | 0 0 0 | 54. | 0 0 0 | 79. | 0 0 0 |
| 5. | 0 0 0 | 30. | 0 0 0 | 55. | 0 0 0 | 80. | 0 0 0 |

The actual answer sheet will provide for 43 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

CABINET MAKING

The trade examination in cabinet making consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of the cabinet making trade through the construction of a wood project. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- Marking pencil
- 6 foot Ruler
- 10 foot Tape
- Curve claw hammer (13 oz.)
- Framing square
- Combination square
- Pair of safety glasses or goggles

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the cabinet making industry.

## THEORY TRADE EXAMINATION

The cabinet making theory examination will consist of 180 multiple choice questions and 20 matching questions for a total of 200 questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to cabinet making:

- Trade terms
- Safety
- Cabinet woods (properties & nature)
- Joints
- Glues
- Hardware
- Blueprint reading
- Woodworking machinery
- Power tool operations
- Finishing preparations
- Varnishes
- Enamels
- Lacquers
- Tool identification/selection/ maintenance
- Tool setting/operations
- Abbreviations
- Material identification/selection
- Kitchen cabinets (parts & standards)
- Cabinet making practices
- Interior finishing
- Furniture construction (standards & practices)
- Staining
- Paints
- Wood finishes

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the cabinet making theory examination. The 180 multiple choice questions are followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. The horizontal face frame members of a cabinet or piece of furniture is called a

   a. stile.
   b. girter.
   c. joist.
   d. rail.

2. A good procedure in assembling cabinets is to always

   a. install the face frame before the back.
   b. nail on the back before installing the face frame.
   c. cut doors and drawer fronts first.
   d. either A or C.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 0 ● | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 ● 0 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers. Numbered answer spaces will be provided for the 20 matching answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

# COMMERCIAL ART

The trade examination in commercial art consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of commercial art through performance in the layout and design of an advertisement. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

Portfolio

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the commercial art industry.

## THEORY TRADE EXAMINATION

The commercial art theory examination will consist of 100 multiple choice questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to commercial art:

Trade terms
Layout
Design elements/principles
Typesetting
Tool selection/operations
Material selection
Stock
Inks
Scaling
Copyfitting
Silkscreening
Printing
Photography
Typography

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the commercial art theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown on the following page. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. A complete set or assortment of characters in several sizes and type faces is called a

   a. family.
   b. series.
   c. font.
   d. category.

2. When light is held back from a particular area while making a print, one is said to be

   a. reducing.
   b. dodging.
   c. burning.
   d. darkening.

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 ● 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 ● 0 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 33. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |
| 8. | 0 0 0 0 | 34. | 0 0 0 0 | 58. | 0 0 0 0 | 83. | 0 0 0 0 |
| 9. | 0 0 0 0 | 35. | 0 0 0 0 | 59. | 0 0 0 0 | 84. | 0 0 0 0 |

The actual answer sheet will provide for 100 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

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VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

COMMERCIAL COOKING

The trade examination in commercial cooking consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of commercial cooking through the preparation of selected foods according to a prescribed menu using commercial cooking techniques, tools and equipment. A maximum of three hours will be allowed for this portion of the trade examination.

All tools, equipment and materials necessary for the administration of the practical examination will be supplied by the examiner. Examinee should wear appropriate work clothes, hair covering and shoes as required for work in commercial cooking.

## THEORY TRADE EXAMINATION

The commercial cooking theory examination will consist of 86 multiple choice questions, 10 matching questions and 5 discussion questions for a total of 101 questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to commercial cooking:

- Meats
- Stocks
- Sauces
- Egg and Dairy products
- Meal preparations
- Cooking utensils/maintenance
- Food storage
- Safety
- Vegetables
- Soups
- Gravies
- Pantry productions
- Cooking methods/preparations
- Trade terms/services
- Health regulations

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the commercial cooking theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown on the following page. The correct answers for these samples are indicated on the sample answer sheet shown.

1. The soup with the thickest consistency is

   a. consomme.
   b. bouillon.
   c. broth.
   d. puree.

2. Scaling in food service means

   a. listing the food to be purchased from each vendor.
   b. comparing prices and quality for identical items among vendors.
   c. weighing the amount of food to be baked.
   d. separating cooked food into individual portions.

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 0 ● | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 ● 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 33. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |
| 8. | 0 0 0 0 | 34. | 0 0 0 0 | 58. | 0 0 0 0 | 83. | 0 0 0 0 |
| 9. | 0 0 0 0 | 35. | 0 0 0 0 | 59. | 0 0 0 0 | 84. | 0 0 0 0 |

The actual answer sheet will provide for 101 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

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TRADE EXAMINATION INFORMATION SHEET

FOR

DIESEL ENGINE

The trade examination in diesel engine consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of a diesel engine through the application of a performance test on a diesel engine. A maximum of three hours will be allowed for this portion of the trade examination.

All equipment, materials and/or supplies will be supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the diesel engine industry.

## THEORY TRADE EXAMINATION

The diesel engine theory examination will consist of 100 multiple choice questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to diesel engines:

Trade terms
Engine
Trouble shooting
Tool identification
Engine air in-take system
Brake system
Clutch
Trade techniques
Fuel system
Cooling system
Cranking system
Lubrication system
Electrical system
Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the diesel engine theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown on the following page. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. A diesel engine has a miss at all speeds and there is a puff of smoke from the exhaust stack when the misfire happens. The most likely cause is

   a. water in the fuel.
   b. the pump is out of time.
   c. a sticking nozzle.
   d. a defective transfer pump.

c6

2. A diesel engine head gasket has failed three times in a row in the same place. The cause could be

   a. an incorrect tightening sequence.
   b. improper torque.
   c. high spots on the cylinder block top face.
   d. any of the above.

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 ● 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 0 ● | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 32. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |
| 8. | 0 0 0 0 | 34. | 0 0 0 0 | 58. | 0 0 0 0 | 83. | 0 0 0 0 |
| 9. | 0 0 0 0 | 35. | 0 0 0 0 | 59. | 0 0 0 0 | 84. | 0 0 0 0 |
| 10. | 0 0 0 0 | 36. | 0 0 0 0 | 60. | 0 0 0 0 | 85. | 0 0 0 0 |
| 11. | 0 0 0 0 | 37. | 0 0 0 0 | 61. | 0 0 0 0 | 86. | 0 0 0 0 |

The actual answer sheet will provide for 100 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

DRAFTING

The trade examination in drafting consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of drafting principles through the preparation of a working drawing either in the machine or architectural drafting industry. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- Drawing instruments
- Pencils, lead holders, leads and lead pointers
- Lettering guide
- Erasers and erasing shields
- Calculator
- French curves
- Standard architectural and/or machine drafting templates
- Machinist's Handbook and/or Architectural Graphic Standards Handbook
- Sanding board
- 30°--60° triangle, 45° triangle and/or adjustable triangle
- Architect's scales or Mechanical Engineer's scale
- Drafting tape
- Dusting brush
- Dusting bag or powder
- Erasing machine (cord or cordless)

No other equipment, materials and/or supplies will be allowed in the examinations area except those supplied by the examiner.

## THEORY TRADE EXAMINATION

The drafting theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to drafting:

- Trade terms/techniques
- Drafting mediums
- Lettering
- Orthographic projection
- Dimensioning
- Auxiliary views
- Developments and intersections
- Machine drafting
- Fastening devices
- Cams
- Architectural drafting
- Elevations
- Tool identification/selection/operations
- Reproduction of drawings
- Alphabet of lines
- Geometric constructions
- Section views
- Pictorial views
- Charts and graphs
- Working drawings
- Gears
- Print reading (machine trade)
- Floor plan
- Sections and details

Building construction
Map drafting
Fractions
Geometry
Structural drafting
Math problems
Decimals

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the drafting theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. The section view which shows in a single view both the inside and outside of an object is a(n)

   a. full section.
   b. offset section.
   c. quarter section.
   d. half section.

2. Schedules on architectural plans refer to

   a. completion dates.
   b. charts of construction materials.
   c. material delivery dates.
   d. daily work plan.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 0 ● | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 ● 0 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAM

TRADE EXAMINATION INFORMATION SHEET

FOR

ELECTRICITY

The trade examination in electricity consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of electricity through house wiring and the wiring of industrial controls. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- Set of screw drivers
- Lineman's pliers
- Long nose pliers
- Cable/Wire stripper
- Electrician's knife
- Multimeter (260 Simpson or equivalent)
- Diagonal cutters
- Channel lock pliers
- Rule
- Hammer

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the electricity industry.

## THEORY TRADE EXAMINATION

The electricity theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to electricity:

- Trade terms
- Motors
- Test equipment
- Material identification/composition
- Ohm's Law
- Conductors
- Magnetism
- Currents
- Capacitors
- Capacitive circuits
- Insulators
- Series circuits
- Blueprint reading
- Formulas
- Diagrams
- National Electrical Code (NEC)
- House wiring
- Science of electricity/electronics
- Tool identification
- Prefixes
- Batteries
- Transformers
- Connections
- Inductors
- Voltage
- Generators
- Resistance
- Parallel circuits
- Mathematics
- Symbols
- Safety/Protective devices
- Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the electricity theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. The unit of capacitance is the

   a. Henry.
   b. Farad.
   c. Volt.
   d. Ohm.

2. One horsepower is equal to

   a. 120 watts.
   b. 550 watts.
   c. 746 watts.
   d. 1200 watts.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 ● 0 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 ● 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 33. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

ELECTRONICS

The trade examination in electronics consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of electronics through the application of basic electronic construction, alignment of radio frequency circuits, graphing electronic parameters and writing and giving an oral lab report. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following :

Calculator Voltmeter

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the electronics industry.

## THEORY TRADE EXAMINATION

The electronics theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to electronics:

Trade terms
Test equipment
Series resistive circuits
Series-parallel resistive circuits
A.C. circuits
Digital circuits
Power supply circuits
Soldering
Capacitors
Batteries
Semiconductors
Electronic equations
Trade techniques
Hand tools
Parallel resistive circuits
Resonance circuits
R.F. circuits
Oscillator circuits
Audio circuits
Magnetism
Inductors
Vacuum tubes
Transistors
Safety

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

## SAMPLE QUESTIONS AND ANSWER SHEET

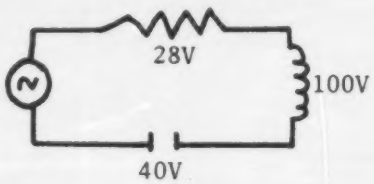
The following questions are similar to those in the electronics theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. The addition of a resistor in series with the inductive branch in a parallel RL circuit will cause the

   a. phase angle to decrease.
   b. power factor to decrease.
   c. true power to decrease.
   d. resistive branch current to decrease.

2. The total voltage in the circuit below is

   a. 31 $\angle 65^\circ$ volts.
   b. 32 $\angle 25^\circ$ volts.
   c. 66 $\angle 65^\circ$ volts.
   d. 66 $\angle 25^\circ$ volts.




### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | ● 0 0 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 ● 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

GRAPHIC COMMUNICATIONS

The trade examination in graphic communications consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of graphic communications through performance in the design and production printing areas of graphic communications. A maximum of three hours will be allowed for this portion of the trade examination.

All equipment, materials and/or supplies will be supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the graphic communications industry.

## THEORY TRADE EXAMINATION

The graphic communications theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to graphic communications:

- Trade terms
- Photography
- Design
- Type styles
- Typesetting
- Composition format
- Darkroom photography/reproduction
- Screen printing
- Offset printing procedures/problems
- Printer's measuring system
- Image assembly
- Stripping
- Press operation
- Binding operations
- Material identification/calculation
- Trade techniques
- Layout
- Scaling
- Composition
- Printing processes
- Type composition
- Darkroom procedures/techniques
- Halftone photography
- Letterpress procedures
- Copy preparation
- Reproduction photography
- Plate making
- Finishing
- Layout and design tools
- Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the graphic communications theory examination. Each question is followed by four choices for an answer, only one of

which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. When stripping for a duotone print you are required to use

   a. one flat.
   b. two flats.
   c. three flats.
   d. four flats.

2. When using photo direct emulsion in screen printing you may use

   a. a negative.
   b. a positive.
   c. either a or b.
   d. neither a or b.

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 ● 0 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 ● 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 33. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |
| 8. | 0 0 0 0 | 34. | 0 0 0 0 | 58. | 0 0 0 0 | 83. | 0 0 0 0 |
| 9. | 0 0 0 0 | 35. | 0 0 0 0 | 59. | 0 0 0 0 | 84. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

HEAVY EQUIPMENT MECHANIC

The trade examination in heavy equipment mechanic consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of heavy equipment mechanics through the application of a performance test on a heavy equipment engine and the fabrication of a pressure line. A maximum of three hours will be allowed for this portion of the trade examination.

All equipment, materials and/or supplies will be supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the heavy equipment mechanics industry.

## THEORY TRADE EXAMINATION

The heavy equipment mechanics theory examination will consist of 100 multiple choice questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to heavy equipment mechanics:

- Trade terms
- Engine
- Tool identification
- Engine overhaul
- Micrometers
- Trouble shooting
- Transmission
- Rear axle
- Clutch
- Tires
- Wheels
- Drive line
- Hydraulics
- Equipment operations
- Trade techniques
- Fuel system
- Air intake system
- Lubrication system
- Brake system
- Ignition system
- Cooling system
- Electrical system
- Dead and live axles
- Hubs
- Front-end alignment
- Differential
- Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the heavy equipment mechanic theory examination. Each question is followed by four choices for an answer, only one of

which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. Air brakes releasing too slowly could be caused by

   a. the brake linkage needing lubrication or adjustment.
   b. a faulty relay valve.
   c. a plugged brake value exhaust port.
   d. all of the above.

2. A new wet sleeve is being installed in a detroit engine.

   Mechanic A says to remove the core plugs.

   Mechanic B says to remove the old sleeve by pulling from the top of the cylinder block.

   Which mechanic is right?

   a. Mechanic A
   b. Mechanic B
   c. Both A and B
   d. Neither A nor B

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 0 ● | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 ● 0 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |

The actual answer sheet will provide for 100 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

INDUSTRIAL SEWING

The trade examination in industrial sewing consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of industrial sewing through the construction of a garment using industrial sewing techniques and industrial sewing machinery and equipment. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following :

- Scissors
- Tape measure
- Pin cushion
- Snippers
- Chalk marker

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner.

## THEORY TRADE EXAMINATION

The industrial sewing theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to industrial sewing:

- Trade terms
- Machine identification/operations/ threading
- Stitch formation/regulations
- Textile processes/fabrics
- Garment construction techniques/ processes/terms/styles
- Safety
- Trade techniques
- Machine parts/functions
- Needle specifications/regulations
- Cutting processes/techniques
- Sewing material identification/ qualities
- Machine operator's standards

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the industrial sewing theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown on the following page. The correct answers for these sample questions are indicated on the sample answer sheet shown .

1. A series of closely spaced stitches used for reinforcement at stress points in garment construction is referred to as

   a. barring stitches.
   b. zig zag stitches.
   c. chainstitching.
   d. bar tacks.

2. The term ply refers to

   a. the fold edge of a seam.
   b. the degree of tauntness in thread.
   c. the number of layers of material.
   d. the lengthwise edge of woven material.

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 0 ● | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 ● 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 32. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |
| 8. | 0 0 0 0 | 33. | 0 0 0 0 | 58. | 0 0 0 0 | 83. | 0 0 0 0 |
| 9. | 0 0 0 0 | 34. | 0 0 0 0 | 59. | 0 0 0 0 | 84. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

**SOUTH CAROLINA DEPARTMENT OF EDUCATION**

**VOCATIONAL TEACHER EDUCATION PROGRAMS**

**TRADE EXAMINATION INFORMATION SHEET**

**FOR**

**MACHINE SHOP**

The trade examination in machine shop consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of machine shop through the construction of a machine part according to specified blueprints. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- Machinist handbook (Machinery's or American)
- Scriber
- Center punch
- Lathe tool bits H.S.S. (Pregrind 3 each 1/4, 5/16, 3/8)
- Dial caliper (0-6")
- 1 set Allen wrenches
- 12 inch Combination square
- 1 inch Micrometer with vernier (.0001)
- 1 number 3 Morse hardened center
- Apron
- Calculator
- Hand wiping cloth
- Emery cloth (assorted grits)
- Machinist hammer (8 oz.)
- Center gage
- Screw pitch gage
- Scratch pad and pencil
- 10 inch Smooth mill file
- 10 inch Adjustable wrench
- 6 inch Rule (flexible)
- 1 number 2 Morse hardened center
- 1/32 inch and 3/32 inch Radius gauges
- Lathe dog 0"-1"
- Safety glasses

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes and shoes (no tennis shoes) as required for work in the machine shop industry.

## THEORY TRADE EXAMINATION

The machine shop theory examination will consist of 200 mulitple choice questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to machine shop:

- Trade terms
- Lathe
- Drill press
- Shaper
- Grinders
- Hand tools
- Safety
- Tool identification/function/ maintenance
- Planer
- Milling machine
- Welding
- Mathematics

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the machine shop theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. A blind hole should be finished tapped with a (an)

   a. taper tap.
   b. bottoming tap.
   c. plug tap.
   d. easy tap.

2. Number four graduations are contained in the

   a. 64ths, 32nds, 16ths, 8ths rules.
   b. 64ths, 32nds, 24ths, 12ths rules.
   c. 10ths, 32nds, 50ths, 64ths rules.
   d. 10ths, 20ths, 50ths, 100ths rules.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 ● 0 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | ● 0 0 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

# PAINTING AND DECORATING

The trade examination in painting and decorating consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of painting and decorating through the application of painting a given area according to specified instructions and determine calculations common to the painting and decorating industry. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- 9 inch Roller cover 1/4 inch NAP
- 9 inch Roller cover 3/4 inch NAP
- 9 inch Roller frame
- 9 inch Roller tray
- 2 inch Synthetic bristle trim brush
- 1 inch Natural bristle brush
- 3 inch Synthetic bristle brush

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the painting industry.

## THEORY TRADE EXAMINATION

The painting and decorating theory examination will consist of 174 multiple choice questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to painting and decorating:

- Trade terms
- Painter's qualification
- Material composition/characteristics
- Manufacturing specification of tools
- Ceiling painting
- Speciality painting
- Plaster painting
- Painting industry
- Surface preparation
- Paint properties
- Wall covering
- Trade techniques
- Material identification/selection
- Tool selection/maintenance
- Exterior/Interior painting
- Decorative painting
- Spray painting
- Wood painting/finishing
- Priming
- Preparation of finishing materials
- Sandblasting
- Color principles

Psychology of color
Color harmony
Mixing of colors
Color selection
Color classification
Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the painting and decorating theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. The chemical used to remove paint from wood is

   a. oxalic acid.
   b. methylene chloride.
   c. muriatic acid.
   d. tricalcium phosphate.

2. A 3/8 inch nap roller cover is used on a

   a. rough surface.
   b. masonry surface.
   c. cedar siding surface.
   d. smooth surface.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 ● 0 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 0 ● | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |

The actual answer sheet will provide for 174 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

PLUMBING

The trade examination in plumbing consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of plumbing through the assembly of galvanized, copper and cast iron pipe and fittings. A maximum of three hours will be allowed for this portion of the trade examination.

All equipment, materials and/or supplies will be supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the plumbing industry.

## THEORY TRADE EXAMINATION

The plumbing theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to plumbing:

- Trade terms
- House water supply
- Sewage disposal
- Soil and Waste pipes
- Testing of drainage systems
- Plumbing fixtures
- Fittings and Joints
- Materials used for water distribution
- Ventilation principles
- Specificiations, blueprints and installations
- Sewer and Drain systems
- Hot water supply
- Sewage disposal installations
- Testing
- Traps used on plumbing systems
- Water purification
- Pipes
- Materials identification/selection
- Plastics in plumbing
- Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the plumbing theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown on the following page. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. The length of time a plumber should wait before handling joints after the initial assembly of cementing ABS pipes is

   a. three minutes.
   b. thirty minutes.
   c. one hour.
   d. two hours.

2. The type of wrench that should be used for tightening plastic threaded joints is a(n)

   a. adjustable (cresent) wrench.
   b. basin wrench.
   c. pipe wrench.
   d. strap wrench.

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | ● 0 0 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 0 ● | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 33. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |
| 8. | 0 0 0 0 | 34. | 0 0 0 0 | 58. | 0 0 0 0 | 83. | 0 0 0 0 |
| 9. | 0 0 0 0 | 35. | 0 0 0 0 | 59. | 0 0 0 0 | 84. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

RADIO & TV REPAIR

The trade examination in radio and television repair consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of radio and television repair through the application of a performance test consisting of trouble shooting a defected television set and constructing and testing audio circuits and power supplies. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

Radio and television repair hand tools  Multimeter

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes as required for work in radio and television repair industry.

## THEORY TRADE EXAMINATION

The radio and television repair theory examination will consist of 140 multiple choice questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to radio and television repair:

Trade terms
AC voltage & frequency
Series circuits
Kirchoff's law
Resistor color code
Semiconductors
Resonance
Electronic math
Modulation
Power supply
Color television receiver
Troubleshooting
Trade techniques
Electronic fundamentals
Parallel circuits
Ohm's law
Oscillators
Inductors
Vacuum tubes
Electronic symbols
Superheterodyne receiver
Transistor amplifier
Capacitors
Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the radio/television repair theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. A 0.05 micro farrad sawtooth capacitor charging through a 3 meg ohm resistor has a charge time constant of

   a. .016 seconds.
   b. 1.5 seconds.
   c. 150 m seconds.
   d. 15 seconds.

2. If the vertical blocking oscillator transformer has a resonant frequency of 2KHz., the time for one-half cycle of ringing is

   a. .25 micro seconds.
   b. 2.5 micro seconds.
   c. 25 micro seconds.
   d. 250 micro seconds.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 ● 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 0 ● | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |

The actual answer sheet will provide for 140 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

SHEET METAL

The trade examination in sheet metal consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of the sheet metal industry through the construction of a heating-ventilating-air-conditioning (HVAC) rectangular and/or round fitting. A maximum of three hours will be allowed for this portion of the trade examination.

All equipment, materials and/or supplies will be supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the sheet metal industry.

## THEORY TRADE EXAMINATION

The sheet metal theory examination will consist of 83 multiple choice questions, 14 matching questions and 3 fill-in the blank questions for a total of 100 questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to the sheet metal industry:

- Trade terms
- Trade techniques
- Layout
- Fabrication
- Material identification
- Equipment maintenance/operations
- Tool identification/selection/ operations
- Math
- Geometry
- Soldering
- Metal fasting
- Spot welding
- Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the sheet metal theory examination. The 83 multiple choice questions are followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown on the following page. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. The materials soft solder is made from are

   a. zinc and lead.
   b. tin and copper.
   c. iron and brass.
   d. tin and lead.

2. Two examples of alloy metals are

   a. cold rolled steel and aluminum.
   b. tin plate and stainless steel.
   c. stainless steel and aluminim.
   d. copper and galvanized steel.

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 0 ● | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 ● 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 32. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |
| 8. | 0 0 0 0 | 33. | 0 0 0 0 | 58. | 0 0 0 0 | 83. | 0 0 0 0 |
| 9. | 0 0 0 0 | 34. | 0 0 0 0 | 59. | 0 0 0 0 | 84. | 0 0 0 0 |

The actual answer sheet will provide for 100 answers. Numbered answer spaces will be provided for the 14 matching and 3 fill-in the blank answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

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VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

SHOE REPAIR

The trade examination in shoe repair consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of shoe repair through the application of a performance test on general repair as performed by a shoe repair person. A maximum of three hours will be allowed for this portion of the trade examination.

All equipment, materials and/or supplies will be supplied by the examiner. Examinee should wear appropriate work clothes as required for work in shoe repair including a work apron.

## THEORY TRADE EXAMINATION

The shoe repair theory examination will consist of 242 multiple choice questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to shoe repair:

- Trade terms
- Leather & its processing
- Tools
- Nails
- Thread
- Stiching
- Inserts
- Lining
- Stretching
- Cleaning
- Trade techniques
- Shoe construction
- Resoling
- Heeling
- Shoe machinery operation/maintenance
- Glove repair
- Athletic repair
- Math
- Miscellaneous repairs
- Safety

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the shoe repair theory examination. Each question is followed by five choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown on the following page. The correct answers for these sample questions are indicated on the sample answer sheet shown on the next page.

1. Soles may be attached to the welt best by

   a. nailing
   b. brading.
   c. stitching.
   d. cementing.
   e. gluing.

2. The welt is attached to the

   a. shoe.
   b. vamp.
   c. eyelets.
   d. heel.
   e. insole and upper.

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d e | | a b c d e | | a b c d e | | a b c d e |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 ● 0 0 | 26. | 0 0 0 0 0 | 51. | 0 0 0 0 0 | 76. | 0 0 0 0 0 |
| 2. | 0 0 0 0 ● | 27. | 0 0 0 0 0 | 52. | 0 0 0 0 0 | 77. | 0 0 0 0 0 |
| 3. | 0 0 0 0 0 | 28. | 0 0 0 0 0 | 53. | 0 0 0 0 0 | 78. | 0 0 0 0 0 |
| 4. | 0 0 0 0 0 | 29. | 0 0 0 0 0 | 54. | 0 0 0 0 0 | 79. | 0 0 0 0 0 |
| 5. | 0 0 0 0 0 | 30. | 0 0 0 0 0 | 55. | 0 0 0 0 0 | 80. | 0 0 0 0 0 |
| 6. | 0 0 0 0 0 | 31. | 0 0 0 0 0 | 56. | 0 0 0 0 0 | 81. | 0 0 0 0 0 |
| 7. | 0 0 0 0 0 | 32. | 0 0 0 0 0 | 57. | 0 0 0 0 0 | 82. | 0 0 0 0 0 |

The actual answer sheet will provide for 242 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

SMALL ENGINE REPAIR

The trade examination in small engines consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of small engines through the application of a performance test on a small engine. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- B & S Engine (2½ to 5 HP, running on stand or mower base)
- Wiping rags
- Necessary gaskets for your engine
- Torque wrench (0-200 inch lbs.)
- Micrometer or Veriner Caliper to measure crankshaft and piston of your engine
- Small parts pan
- Hand tools (including engine special tools--ring squeezer, flywheel puller, etc.)
- Fire extinguisher
- Specifications for your engine
- Cylinder gauge or inside mike
- Engine oil
- Service manual for your engine

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes as required for work in the small engines industry.

## THEORY TRADE EXAMINATION

The small engine theory examination will consist of 138 multiple choice questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to small engines:

- Trade terms
- Fuel system
- Lubrication system
- Engine trouble shooting
- Governors
- Safety
- Trade techniques
- Ignition system
- Starters and charging systems
- Engine overhaul
- Theories of operation

All materials necessary for the administraton of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the small engines theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for theses sample questions are indicated on the sample answer sheet shown.

1. The distance traveled in water in one revolution of a boat propeller is called the

   a. pitch.
   b. RPM.
   c. torque.
   d. propulsion.

2. A coupling device capable of transmitting rotation between two shafts not in alignment is called a

   a. power take off.
   b. universal joint.
   c. field coil.
   d. pitch.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a | b | c | d | | a | b | c | d | | a | b | c | d | | a | b | c | d |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | ● | | | | 26. | | | | | 51. | | | | | 76. | | | | |
| 2. | | ● | | | 27. | | | | | 52. | | | | | 77. | | | | |
| 3. | | | | | 28. | | | | | 53. | | | | | 78. | | | | |
| 4. | | | | | 29. | | | | | 54. | | | | | 79. | | | | |
| 5. | | | | | 30. | | | | | 55. | | | | | 80. | | | | |
| 6. | | | | | 31. | | | | | 56. | | | | | 81. | | | | |

The actual answer sheet will provide for 138 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

TAILORING

The trade examination in tailoring consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of tailoring through the drafting of a garment and the construction of component parts of a garment. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- Scissors
- Tape measure
- Pin cushion
- Tailor's chalk
- 6" or 12" Ruler
- Pencil

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner.

## THEORY TRADE EXAMINATION

The tailoring theory examination will consist of 72 multiple choice questions, 39 true-false questions, 95 put-in-correct-order questions for a total of 206 questions. These questions will test the examinee's knowledge on the following industry concepts and operations as applied to tailoring:

- Trade terms
- Stitching
- Garment construction processes/ techniques
- Hand sewing equipment
- Measuring devices
- Tailoring history
- Buttonholes
- Alterations
- Garment lining
- Trade techniques
- Needles
- Pressing techniques
- Tool identification
- Material identification
- Garment component parts identification
- Repairing
- Marking techniques

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the tailoring theory examination. Each multiple choice question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown on the following page. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. The sewing line for the curved area of the zipper is marked by

   a. machine basting.
   b. hand basting.
   c. tailor's chalk.
   d. tailor's tacks.

2. The first thing to do when shortening a pattern is to

   a. fold up on the alteration line.
   b. fold down on the alteration line.
   c. cut excess length off bottom of pattern.
   d. determine how much pattern must be shortened.

**THEORY TRADE EXAMINATION ANSWER SHEET**

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 ● 0 | 14. | 0 0 0 0 | 27. | 0 0 0 0 | 40. | 0 0 0 0 |
| 2. | 0 0 0 ● | 15. | 0 0 0 0 | 28. | 0 0 0 0 | 41. | 0 0 0 0 |
| 3. | 0 0 0 0 | 16. | 0 0 0 0 | 29. | 0 0 0 0 | 42. | 0 0 0 0 |
| 4. | 0 0 0 0 | 17. | 0 0 0 0 | 30. | 0 0 0 0 | 43. | 0 0 0 0 |
| 5. | 0 0 0 0 | 18. | 0 0 0 0 | 31. | 0 0 0 0 | 44. | 0 0 0 0 |
| 6. | 0 0 0 0 | 19. | 0 0 0 0 | 32. | 0 0 0 0 | 45. | 0 0 0 0 |
| 7. | 0 0 0 0 | 20. | 0 0 0 0 | 33. | 0 0 0 0 | 46. | 0 0 0 0 |
| 8. | 0 0 0 0 | 21. | 0 0 0 0 | 34. | 0 0 0 0 | 47. | 0 0 0 0 |
| 9. | 0 0 0 0 | 22. | 0 0 0 0 | 35. | 0 0 0 0 | 48. | 0 0 0 0 |

The actual answer sheet will provide for 206 answers. Spaces will be provided for the true/false and put-in-correct-order answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

TEXTILES

WEAVING AND DESIGNING
(DOBBY/X -2 or X -3 LOOM)

The trade examination in textiles weaving and designing consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of textile processing through the setting, adjusting and operating of a dobby/X-2 or X-3 loom. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following:

- Small screwdriver (5/16" blade, length)
- Pliers
- Large hammer (3 lb., ball peen type)
- Center punch
- Hack saw
- Pocket knife
- Scissors
- Set of Allen key wrenches
- Utica pliers (cotter key pliers)
- 3/8" X 5/16" Set screw wrench
- Box end wrenches
  - 1/2" X 9/16"
  - 5/8" X 3/4"
- Large screwdriver (7/16" blade, 6" blade length)
- Small hammer (ball peen type)
- Steel tape (6 ft. marked in 1/16)
- 1/8" and 1/4" Pin punch
- Flat chisel (3/4" wide)
- Belt punch
- Reed pliers
- 24" Straight edge
- 7/16" X 1/2" Set screw wrench
- Open end wrenches
  - 1/4" X 5/16"
  - 1/2" X 9/16"
  - 3/4" X 7/8"
  - 3/8" X 7/16"
  - 5/8" X 3/4"
  - 1 1/4" X 1 7/16"
- Racket wrench with sockets and 4" and 8" extensions--
  - 8 point socket, 1/2";
  - 12 point socket, 5/8"; 9/16", 3/4:, 7/8", 1 1/16", 1/2"

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes and shoes as required for work in the textile industry.

## THEORY TRADE EXAMINATION

The textile weaving and designing theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge on the following textile industry concepts and operations as applied to weaving and designing:

- Trade terms
- Drawing and combing
- Roving
- Opening/picking
- Carding
- Warping

Winding
Spinning
Weaving
Loom fixing
Cloth analysis
Safety
Spooling
Slashing
Dobby loom
Fibers
Design

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the textiles weaving and designing theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. In ordering parts for a Draper loom along with the correct part's number, one should give the

   a. correct loom width.
   b. correct loom speed.
   c. correct loom order number.
   d. style being woven.

2. In order to increase the speed on a X-3 loom one must

   a. install a larger motor penion.
   b. increase the voltage.
   c. apply more power to lugs.
   d. decrease the gap setting on the Dehiel drive.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 ● 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | ● 0 0 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

TEXTILES

WEAVING AND DESIGNING
(DRAPER SHUTTLELESS)

The trade examination in textiles weaving and designing consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAM

Examinee will be required to demonstrate practical knowledge of textile processing through the setting, adjusting and operating of a Draper shuttleless loom. A maximum of three hours will be allowed for this portion of the trade examination.

All equipment, materials and/or supplies will be supplied by the examiner. Examinee should wear appropriate work clothes and shoes as required for work in the textile industry.

## THEORY TRADE EXAMINATION

The textile weaving and designing theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge on the following textile industry concepts and operations as applied to weaving and designing:

- Trade terms
- Drawing and Combing
- Roving
- Winding
- Spinning
- Weaving
- Loom fixing
- Cloth analysis
- Safety
- Opening and Picking
- Carding
- Warping
- Spooling
- Slashing
- Dobby loom
- Fibers
- Design

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the textiles weaving and designing theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown on the following page. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. To position the tape wheel on a Draper shuttleless loom one should set the hand wheel at

   a. 90 degrees.
   b. 180 degrees.
   c. 280 degrees.
   d. 370 degrees.

2. Before the filling friction assemblies resets itself on the Draper shuttleless loom it makes

   a. two picks.
   b. four picks.
   c. six picks.
   d. eight picks.

**THEORY TRADE EXAMINATION ANSWER SHEET**

_____ Name of Examinee

_____ Examination

_____ Social Security Number

_____ Date

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 ● 0 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | ● 0 0 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 33. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |
| 8. | 0 0 0 0 | 34. | 0 0 0 0 | 58. | 0 0 0 0 | 83. | 0 0 0 0 |
| 9. | 0 0 0 0 | 35. | 0 0 0 0 | 59. | 0 0 0 0 | 84. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

TEXTILES

YARN MANUFACTURING

The trade examination in textile yarn manufacturing consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of textile processing through the operation of a card, drawing frame, roving frame and spinning frame making all necessary adjustments as specified in the textile industry. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be reponsible for bringing the following:

- Set of feeler gauges for card and drawing
- 1 Large screwdriver
- 1/2" X 9/16" Boxed-in wrench
- Leaf gauge
- 3/4" X 7/8" Open end wrench
- 1/2" Set wrench
- 1/2" Drive ratchet with 7/16" socket
- Set of plumbs for warp yarn (spinning)

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate work clothes and shoes as required for work in the textile industry.

## THEORY TRADE EXAMINATION

The textile yarn manufacturing theory examination will consist of 200 multiple choice questions. These questions will test the examinee's knowledge on the following textile industry concepts and operations as applied to yarn manufacturing:

- Trade terms/operations
- History of textile industry
- Carding
- Roving
- Spooling
- Twisting
- Finishing
- Fiber
- Laboratory tests
- Safety
- General knowledge of textile industry
- Opening and picking
- Drawing
- Winding
- Warping
- Spinning
- Yarn preparation
- Cotton
- Textile math formulas

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the textile yarn manufacturing theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. In the cotton system of numbering yarns, counts are based on the standard of

   a. 160 yards.
   b. 840 yards.
   c. 1230 yards.
   d. 1680 yards.

2. One skein is equal to

   a. 120 yards.
   b. 380 yards.
   c. 520 yards.
   d. 840 yards.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| | a b c d | | a b c d | | a b c d | | a b c d |
|---|---|---|---|---|---|---|---|
| 1. | 0 ● 0 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | ● 0 0 0 | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

SOUTH CAROLINA STATE DEPARTMENT OF EDUCATION

VOCATIONAL TEACHER EDUCATION PROGRAMS

TRADE EXAMINATION INFORMATION SHEET

FOR

WELDING

The trade examination in welding consists of two parts, which are described below. Six hours, plus an hour for lunch, is the time typically scheduled for completing the exam.

## PRACTICAL TRADE EXAMINATION

Examinee will be required to demonstrate practical knowledge of welding through the application of Arc, Oxyacetylene, MIG and TIG welding and cutting operations. A maximum of three hours will be allowed for this portion of the trade examination.

Examinee will be responsible for bringing the following equipment:

- Gloves
- Safety glasses
- Chipping hammer
- 12 foot Tape
- Welding shield
- Cutting goggles
- Wire brush

No other equipment, materials and/or supplies will be allowed in the examination area except those supplied by the examiner. Examinee should wear appropriate protective work clothes and shoes as required for work in the welding industry.

## THEORY TRADE EXAMINATION

The welding theory examination will consist of 184 multiple choice questions and 16 identifcation questions for a total of 200 questions. These questions will test the examinee's knowledge of the following industry concepts and operations as applied to welding:

- Trade terms
- Oxyacetylene welding/cutting
- TIG welding
- Special welding
- Symbols and blueprint reading
- Trade techniques
- Arc welding
- MIG welding
- Spot welding

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.

## SAMPLE QUESTIONS AND ANSWER SHEET

The following questions are similar to those in the brick masonry theory examination. Each question is followed by four choices for an answer, only one of which is correct. Answers are marked on a separate answer sheet as shown below. The correct answers for these sample questions are indicated on the sample answer sheet shown.

1. When a fillet lap weld has a concave cross-section, it is considered

   a. a strong weld.
   b. a good weld.
   c. a weak weld.
   d. none of the above.

2. The butt joint can be made on

   a. beveled edges.
   b. open edges.
   c. closed edges.
   d. all of the above.

### THEORY TRADE EXAMINATION ANSWER SHEET

Name of Examinee _____ Examination _____

Social Security Number _____ Date _____

| a b c d | | a b c d | | a b c d | | a b c d | |
|---|---|---|---|---|---|---|---|
| 1. | 0 0 ● 0 | 26. | 0 0 0 0 | 51. | 0 0 0 0 | 76. | 0 0 0 0 |
| 2. | 0 0 0 ● | 27. | 0 0 0 0 | 52. | 0 0 0 0 | 77. | 0 0 0 0 |
| 3. | 0 0 0 0 | 28. | 0 0 0 0 | 53. | 0 0 0 0 | 78. | 0 0 0 0 |
| 4. | 0 0 0 0 | 29. | 0 0 0 0 | 54. | 0 0 0 0 | 79. | 0 0 0 0 |
| 5. | 0 0 0 0 | 30. | 0 0 0 0 | 55. | 0 0 0 0 | 80. | 0 0 0 0 |
| 6. | 0 0 0 0 | 31. | 0 0 0 0 | 56. | 0 0 0 0 | 81. | 0 0 0 0 |
| 7. | 0 0 0 0 | 33. | 0 0 0 0 | 57. | 0 0 0 0 | 82. | 0 0 0 0 |

The actual answer sheet will provide for 200 answers.

All materials necessary for the administration of the theory examination will be supplied by the examiner. A maximum of three hours will be allowed for this portion of the trade examination.